

## Introduction

For this assignment I was tasked with making a multivariate map portraying possible connections between two datasets at the Minnesota county level. No data was provided, with the exception of shapefiles for the MN counties, and all was collected by the United States Census Bureau in my map.

## Map / Figures

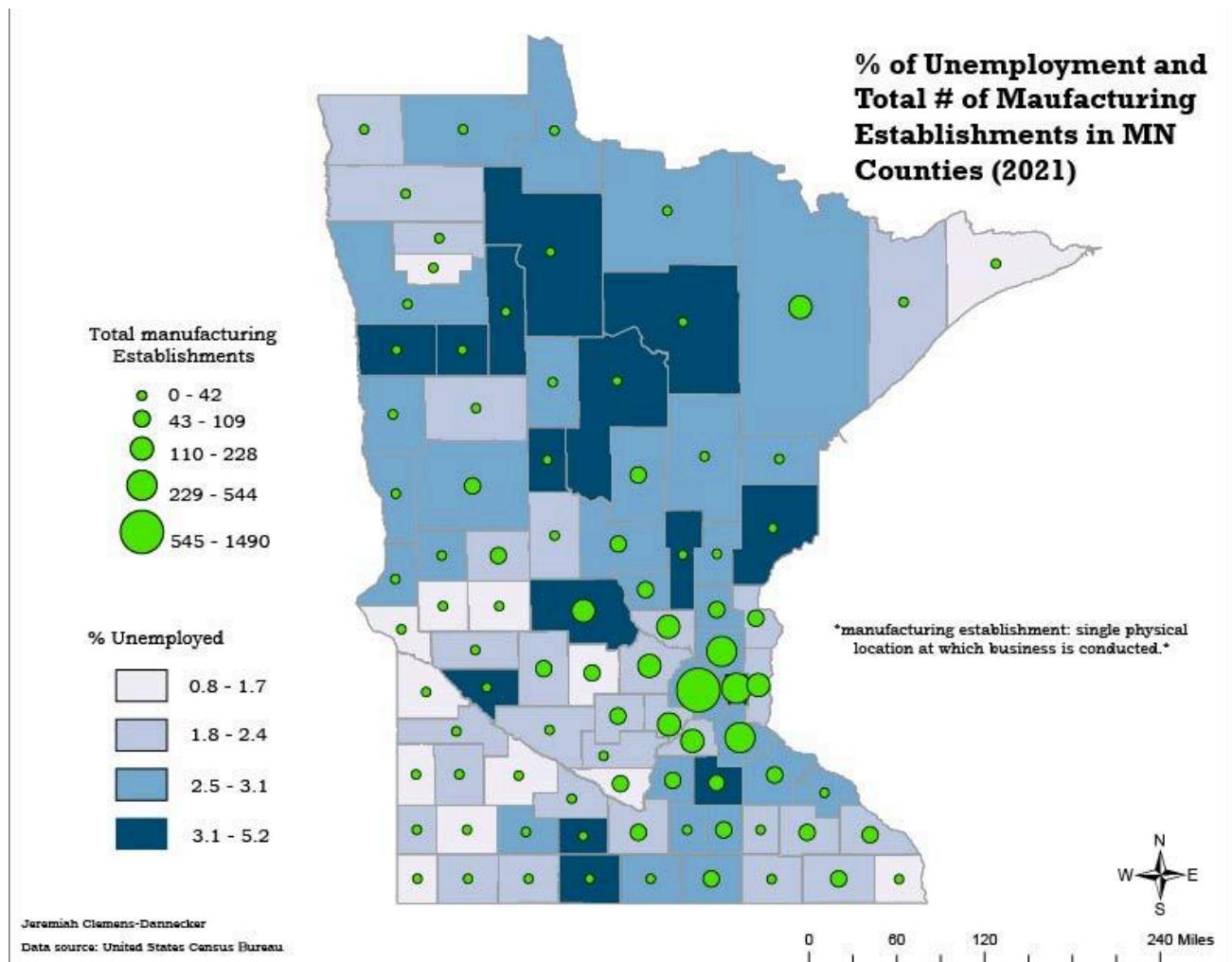


Figure A.

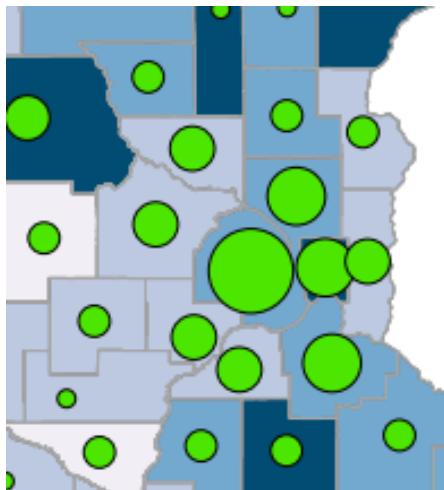


Figure B.

## Analysis

I wanted to see how the manufacturing industry affects economic factors such as unemployment in Minnesota. I chose to map the percentage of unemployment in Minnesota counties along with the total manufacturing establishments at the Minnesota county level.

In the northern central part of Minnesota the counties in the largest category for unemployment are also in the smallest category of manufacturing establishments. The large agricultural industry could be a significant reason as to why this is.

In the south eastern portion of Minnesota (where the larger manufacturing numbers are) most of the counties with a lower unemployment rate also have a medium to higher number of manufacturing establishments. This could imply that having a higher number of manufacturing establishments could lead to a lower unemployment rate.

There are however a few exceptions. *Figure B* above shows the most populated counties like Hennepin county and Ramsey County and their surroundings. A few of these counties have relatively higher unemployment rates, yet have a larger manufacturing industry. This could be due to a number of factors like a more diverse economy, higher competition etc.